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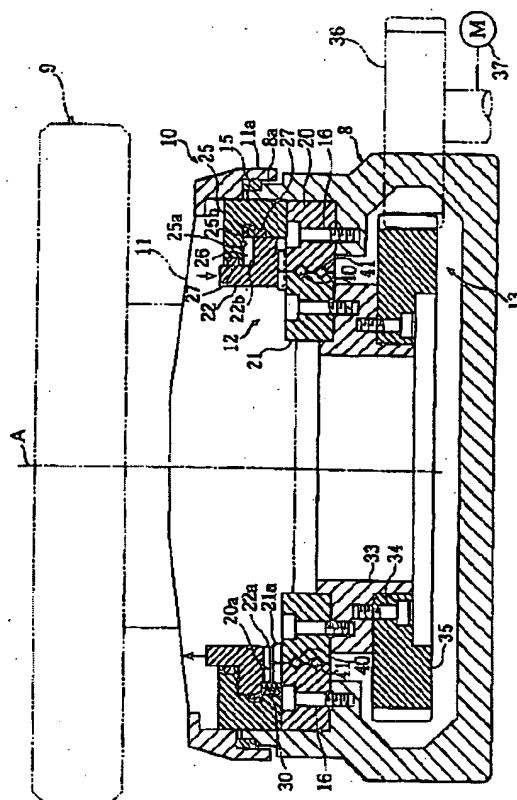
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TITLE : ROTATION INDEXING DEVICE FOR  
MACHINE TOOL



**SOLUTION:** The rotation indexing device 10 comprises the rotation-side coupling 21 fixed to a rotation part 11 and a fixation-side coupling 20 fixed to a fixing base 8, both arranged coaxially with each other, a joint coupling 22 opposed to both of the rotation-side and fixation-side couplings 21, 20 in an engageable manner, arranged to be movable between a clamp position, where the rotation-side coupling 21 in engagement is clamped at a rotating angle position and an unclamp position, where it is unclamped, and rollers 40, 41 arranged in upper and lower lines between the rotation-side coupling 21 and the fixation-side coupling 20, the rotation-side coupling 21 being supported by the fixation-side coupling 20 via the roller 40, 41 in lines.

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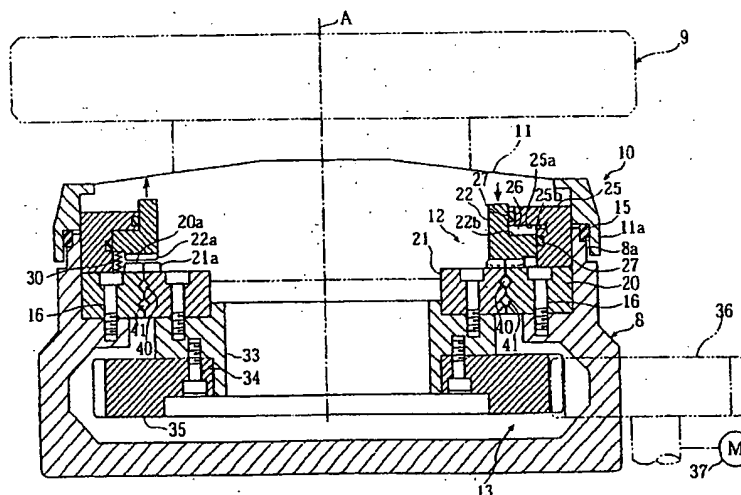
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### (54) Rotational indexing device of machine tool

(57) Provided is a machine tool rotational indexing device capable of avoiding or restraining the reduction in the preload of any of rolling element rows or restraining the reduction in the support rigidity of the rotary-side coupling even if the preload is decreased. Rolling elements are arranged between a rotary-side coupling 21 and a stationary-side coupling 20 so that a plurality of rolling element rows are formed and a prescribed preload acts when a joint coupling 22 is located in an unclamped position. The rolling element rows are con-

structed of a first rolling element row L1 arranged in a direction in which the preload increases as the joint coupling 22 moves to a clamped position and a second rolling element row L2 arranged in a direction in which the preload decreases. Further, the first rolling element row L1 is positioned farther apart from the meshing engagement portion of the couplings than the second rolling element row L2, and the rotary-side coupling 21 is supported on only the stationary-side coupling 20 via the first and second rolling element rows.

Fig.1



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## EUROPEAN SEARCH REPORT

Application Number  
EP 02 02 8648

| DOCUMENTS CONSIDERED TO BE RELEVANT  |  |   |  |
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| Category   | Citation of document with indication, where appropriate, of relevant passages  | Relevant to claim                                       | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
| A,D,<br>P  | PATENT ABSTRACTS OF JAPAN<br>vol. 2002, no. 10,<br>10 October 2002 (2002-10-10)<br>& JP 2002 160144 A (MORI SEIKI CO LTD),<br>4 June 2002 (2002-06-04)<br>* abstract * | 1,3   | B23Q16/02<br>B23Q1/40<br>B23Q16/10           |
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|  |  |   | B23Q   |
| The present search report has been drawn up for all claim.   |  |   |  |
| Place of search<br><b>MUNICH</b>   |  | Date of completion of the search<br><b>23 July 2003</b> | Examiner<br><b>Lasa, A</b>                   |
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